



Managed by Fermi Research Alliance, LLC for the U.S. Department of Energy Office of Science

Fermilab Project Overview

Michael Lindgren

2014 EVMS Surveillance Review

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Overview

- Landscape for Particle Physics has changed since last review
 - Effective Project management more imperative than ever
- Decadal effort in HEP through Snowmass and P5 process
 - Process brought clarity to direction for US Particle Physics
 - Drives what projects the DOE will invest in
 - Clear roadmap to follow for the next decade
- New lab director renewed focus on Projects
 - Chief Project Officer position created
 - Lab Technical Resource Coordinator position created
 - Integrated Planning and Performance Management (IPPM)
 - Project Support Services (OPSS) strengthened

**Fermilab is committed to excellence in project management
so we can deliver the science**

Science Strategy for the Future/Major Initiatives

- Building a world-leading neutrino program
- Upgrading the accelerator complex to meet future needs
- Driving Large Hadron Collider research and upgrades
- Launching a muon physics program
- Advancing our understanding of dark energy, dark matter, and the cosmic microwave background
- Leveraging accelerator expertise and infrastructure for the benefit of science and society



Building for Discovery

Strategic Plan for U.S. Particle Physics in the Global Context

Projects - Since last year

- Excellent progress on NOvA and MicroBooNE:
 - NOvA complete - on budget and on schedule.
 - MicroBooNE CD-4 review tomorrow
 - 3rd and 4th projects after MINERvA and DES delivered on budget and on schedule
- LCLS-II – BES accelerator project, pre-CD-2
- PIP-II (accelerator replacement) not yet at CD-0
- LBNF – (Neutrino's), international project
 - Intense focus on redefining from LBNE over past year
- Mu2e, Muon g-2 – (Muon experiments) Have CD-1
 - Expect Baseline+ in FY15
- SLI Utility Upgrade – Baseline review this week
- CMS Phase One upgrade (LHC) has CD-2/3

Executing the Strategy

- The Chief Project Officer is accountable for the successful execution of our project portfolio in concert with successful operation of the scientific program
- Projects/Programs are located within Divisions
 - PIP-II: Accelerator Division
 - LARP, LCLS-II: Technical Division
 - CMS upgrades, Mu2e, Muon g-2, Cosmic Frontier: PPD
 - All neutrino projects: Neutrino Division
- To succeed on this slate of big projects requires
 - Increased focus on resource management
 - Dedicated person with authority to span Divisions/Sections
 - Outstanding project management systems
 - Processes, Tools and People
 - EVM System is critical PM tool

Earned Value

- We have a built in motivation to complete these projects on cost and schedule
 - The people building them get to participate in the scientific research done by the product, but
 - Without oversight help and tools they will not succeed
 - Hope to demonstrate projects and lab commitment to EV
 - It is now a standard tool for all CD projects
 - Used by more than CD projects – AIP's and GPP's using also
- EV is critical component of projects management of toolkit, and also for oversight groups to measure progress
 - Have taken recommendations seriously
 - Hope to demonstrate that we have done so

Getting to Success

- Recent delivery of multiple projects on time and budget, but
 - Every one could have been better managed in one area or another (or multiple areas)
 - Impacts SC confidence of ability to deliver
- OPA workshop at ANL – summer 2014
 - Terrific opportunity to learn from each other
 - Many common PM issues across labs
- Steps at Fermilab
 - Strengthened OPSS
 - Multiple new people – Marc and Rich talk next
 - Created IPPM – Erik Gottschalk
 - Several initiatives to identify improvement opportunities
 - External – embracing suggestions and criticisms
 - Internal – New people, new ideas

Lab engagement with Projects

- Lab has a critical role in project management and construction
 - Work closely with DOE Program Managers and FSO PD's
 - DOE attend most lab oversight/management meetings
- Oversight/engagement through
 - Project Management Group (PMG)
 - Monthly for each project
 - Performance Oversight Group (POG)
 - Monthly for all projects together
 - Cost and schedule (EV) performance reviewed at both
 - Valuable for Lab, DOE, and Project
- CPO, OPSS, IPPM, focused on project success
 - We are here to help projects succeed
 - Re-thinking approaches and tools

In Closing

- Our future depends greatly upon our performance in project management.
 - Last four projects delivered on time and budget
 - Must continue improvements to succeed on larger scale
- Lab committed to continue to build an integrated system that supports our Projects and Project Managers.
 - We have learned from our experience and have taken advice from the review committees seriously.
 - Improvement initiatives take time, patience and persistence.
- Projects and lab management recognize the importance of EV as a management tool.

Thanks for being here and taking the time to help. We welcome your questions, insights and recommendations